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| **Lesson Title: Kinetic, Potential & Mechanical Energy** |
| **5th grade Science** |
| **Introduction:** use Brainpop- “Kinetic Energy” & “Potential Energy” as an introduction.  [www.brainpop.com](http://www.brainpop.com) |
| **Lesson Length: 45 minutes** |
| **Materials:**  Promethean Board, Science book, Science interactive notebook, balloons, rubber bands,sand,marbles, shallow pan. |
| **Lesson Overview:**  Understand and demonstrate the difference between kinetic and potential energy. |
| **Tennessee Standards:**  **SPI 0507.10.1** Differentiate between potential and kinetic energy. |
| **Lesson objective/outcome(s):**  Students will distinguish between kinetic and potential energy. They will be able to demonstrate and explain each energy source in their own words. |
| **ENGAGE**   1. Marble/Sand demonstration   Essential Questions:   1. What do you predict will happen when I drop a marble at 12 inches, 24 inches and 36 inches into the sand? 2. Hypothesize what a wrecking ball could do to a building 12 stories, 24 stories and 36 stories high. 3. Would it matter which part of the building the wrecking ball hit? Explain. Why? |
| **EXPLORATION**  1. Teacher will blow up a balloon, explain potential energy.  2. Teacher will release balloon and explain kinetic energy.   1. Place a balloon on each desk. Have the students blow up the balloon. Instruct them to hold the air in the balloon until you say to release the energy. 2. While the students are holding the balloon, explain potential energy. 3. Instruct the students to release the balloon. 4. Explain kinetic energy to the students. |
| **EXPLANATION**  Use the PowerPoint presentation “kineticpotentialreview” to assess student knowledge. |
| **ELABORATION**  Analyze the information  <http://www.cstephenmurray.com/onlinequizes/physics/workandenergy/kineticvspotentialenergy.htm> |
| **EVALUATION**  What are kinetic and potential energy?  Choose one of the following to demonstrate full comprehension of kinetic, potential and mechanical energy. Use crayons, markers or colored pencils to   1. Create a foldable- divide your foldable into three sections. 2. Label each type of energy. 3. Write the definition for each energy source. 4. Draw a picture for each form of energy. 5. Find a partner and create a graphic resource for each type of energy source. 6. Get one large sheet of crate paper and divide it into three sections. 7. Label each type of energy with definitions and pictures. 8. Include three examples per source. |
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